

What is claimed is:

1. An neuropathic RNA element that produces motor neuron degeneration comprising a wild-type neurofilament L mRNA.

5 2. A method of identifying specific components of RNA-protein complexes that can be used to prevent motor neuron degeneration comprising:

a) expressing the neuropathic element of claim 1 in a first population of neuronal cells or tissues;

10 b) contacting said first population of neuronal cells or tissues with a candidate component of a RNA-protein complex;

c) determining a first level of neuropathic effects in said first population of cells or tissues where the candidate
15 component of a RNA-protein complex has been expressed;

d) determining a second level of neuropathic effects in a second population of neuronal cells or tissues that lack expression of the candidate component of the RNA-protein complex; and

20 e) comparing the level of neuropathic effects in said first and second population of cells or tissues, wherein a decrease in the level of neuropathic effects is indicative of the ability of the candidate component of the RNA-protein complex to prevent motor neuron degeneration.